

STATE OF ALASKA
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF FORESTRY
NORTHERN REGION
TOK AREA

FOREST LAND USE PLAN

Wood Energy Sale and Hazardous Fuels Reduction Project #1

NC-# 1093
ADL # 419256

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I. INTRODUCTION

A. Purpose

The purpose of this Forest Land Use Plan (FLUP) is to provide sufficient information for reviewers to ensure that the best interest of the State will be served by the Department of Natural Resources, Division of Forestry, Tok Area, offering this proposed timber sale and hazardous fuels reduction project. This sale is located in Sections 10,13, 15, 22, 23, 24, 26 and 35 T18N R11 E Copper River Meridian. This FLUP deals with site specific consideration of the State. The boundaries and precise volume of the sale may be refined if and when the sale developed. Site specific research has been completed on title considerations, land classifications, applicable land management plans, appropriate silvicultural techniques, regulatory and statutory requirements and physical conditions that apply to the proposed area. The proposal is to harvest and or treat approximately (800 acres of primarily spruce timber. The sale design may be altered to mitigate potential conflicts. It will be the responsibility of the Forester-In-Charge to ensure that any purchaser of this sale harvests timber per the sale design and sale contract provisions and adheres to Alaska Forest Resources and Practices Act (AFRPA) best management practices.

The public is invited to comment on any aspect of this proposed timber sale with regards to the Preliminary Finding and Decision (AS 38.05.035). Comments should be mailed to the Division of Forestry, PO Box 10, Tok, Alaska 99780, by email at dnr.fortok@alaska.gov, or delivering them to the Tok Area Office a Milepost 123.9 Tok Cutoff. Comments must be received at the Division of Forestry no later than 9/23/2011 in order to be considered in the Final Decision of whether the sale will be held in whole or in part. To be eligible to appeal the final decision, a person must have provided written comment by 9/23/2011.

B. Five-Year Sale Schedule

The general area and timber type that this proposed sale occupies has been shown as a potential sale area in the current Five-Year Schedule of Timber Sales (FYSTS) for Fiscal Years 2009-2013 as required by AS 38.05.113. It has been listed in previous schedules.

C. Location

The legal description of this proposed sale is as follows:

Sections	Township	Range	Meridian
10, 13,15,22, 23,24, 26, 35	T18N	R11E	Copper River

Eagle Subdivision is the nearest community and borders the sale area. This area is located on the United States Geological Survey 1:63,360 Quadrangle map titled Tanacross (B-5), Alaska. The sale is accessed by driving west from Tok on the Alaska Highway approximately 8 miles. The sale borders Eagle Subdivision and is close to several native allotments. All residents and allotment owners will be contacted and public meetings will be held at Tok Forestry Station to discuss the sale and any concerns landowners might have. Initial contact has suggested landowners are interested in having their property protected by having hazardous fuels removed from state land that borders them.

D. Title, Classification and Other Active or Pending Interests

The sale area is within Subregion 6 of the *Tanana Basin Area Plan for State Lands* which states that “*timber harvesting will be allowed on all retained land in the subregion*”. Section 6H3 is designated as co-primary use for forestry/wildlife habitat. This land use designation and the management intent specifically allow for timber harvest. Native allotments will need to be identified and flagged on the ground.

E. General Timber Sale Program Objectives

1. **Develop the State’s Renewable Resources.** To follow the DNR’s constitutional mandate to encourage the development of the State’s renewable resources, making them available for maximum use consistent with the public interest. Sustain and promote a healthy, long-term timber industry in the State, through providing a secure source of timber for harvest that produces raw materials for local manufacturing plants when practical while protecting other resources such as fish and wildlife.
2. **Improve the State’s Economy.** To help the State’s economy by providing royalties to the State in the form of stumpage receipts, as well as contributions to local economies through wages, purchases, jobs and business. Further benefits to the States economy will be realized thru the savings in fuel oil by utilizing some of the harvested material for bio-fuel for the Tok School and through the reduced risk of expensive large wildfires.
3. **Improve Forest Health.** To improve forest growth and vigor by harvesting and replacing mature stands and stands with declining vigor with new healthy regenerating stands, while protecting and maintaining other resource values. The actions authorized under this decision will follow the constitutional mandate of sustained yield and shall adhere to multiple use management as described in the Tanana Basin Area Plan.
4. **Improve Wildlife Habitat.** To provide a mosaic of forest stand ages for the variety of wildlife species that live in the area, including some early-successional stages. And meet the wildlife management goals for the Tanana Basin Area Plan that provide for the economic development of other natural resources while protecting habitat needs of wildlife resources necessary to maintain or enhance public use and economic benefits.
5. **Protect the Community of Tok, Eagle Subdivision and Surrounding Native Allotments from Wildfire.** This proposed sale is located in Critical protection as defined by the *Interagency Wildfire Management Plan* and meets the intent of the *Healthy Forests and Restoration Act of 2003* which was passed by Congress and directs communities that are at risk of wildfire within the Wildland Urban Interface (WUI, the area where forested lands mix with homes) to mitigate the risk of wildfire, largely through hazard fuel reduction. Reduction of wildfire hazard fuels also considerably reduces the costs to the State of Alaska in suppressing large fires within the WUI and the costs of legal matters in the event of a wildfire destroying property or causing injury or death. The Eagle Trail Fire of 2010 was a very intense and dangerous fire that caused the evacuation of Eagle Subdivision and Tanacross Village. The Fuel Reduction Project around Tanacross village likely saved the village from burning to the ground. A line around a portion of Eagle Subdivision was put in during the fire. If the winds would have change, Eagle Subdivision would

likely have not survived the fire with mass loss of homes and property and potentially lives.

II. LEGAL AUTHORITY

This Division of Forestry is taking this action under the authority of AS 38.05.035 (e) (Best Interest Finding); AS 38.05.110-120 (Alaska Land Act Statutes); 11 AAC 71 (Timber Sale Statutes and Regulations); AS 41.17.010-.950 and 11 AAC 95 (Forest Resources and Practices Statutes and Regulations).

III. ADMINISTRATIVE RECORD

The case file ADL # 419256 and the Tanana Basin Area Plan constitute the administrative record for this finding.

IV. DISCUSSION OF ISSUES

A. Physical Characteristic of the Sale Area

1. **Topography.** The topography for this area is flat with an elevation of about 1600 feet above sea level. The area is approximately 2 miles from the foothills of Mt. Neuberger.
- 2.
3. **Soils.** . Shallow mineral soil on top of alluvial primarily sand and gravel dominates the soil. There is no permafrost in the area of the sale (*DNR soil inventory*)
4. **Waterbodies.** There are no water bodies within at least three miles of this sale.
5. **Stand Conditions.** This unit contains a single age stand of white spruce with the occasional overstory tree. Stands of dense doghair white spruce with up to 10,000 stems per acre dominate the sale area and are part of a contiguous stand of roughly 39,000 acres in size. The sale contains the occasional climax aspen and evidence of an aspen stand (many small diameter dead aspen) which followed the last wildfire in the area, the remains of which are still visible in the occasional charred stump. The aspen stand has since been crowded out and mostly died off due to shading by the dense spruce (*R. Doucet 1989*). The resulting stand of densely packed, mostly small diameter white spruce has not been allowed to burn due to aggressive fire suppression during the last several decades (*S. Gabbard, Tok Fire History Records*) while much of the broader area to the east and north of the Tanana River has burned, creating an aspen forest with spruce understory that will eventually shade and dominate the aspen, continuing the cycle.

The goal is to facilitate a stand conversion by removing the volatile spruce and allowing the aspen suckers to sprout, simulating the effects of fire. This method has proved to be very effective in the Interior of Alaska (*T. Paragi and D. Haggstrom 2007*)

B. Historic and Current Land Use

Since the early 1900's natives, hunters, trappers, prospectors, and loggers have used this general area. Lumber and firewood harvested for personal use in the Tok area has occurred historically. Lumber was logged fairly extensively from the Tok River area in the 40's and 50's supporting the Tok Cutoff (Glenn Highway) road building effort. This access road was the first road system between Tok and the Richardson Highway. An old Indian route through the general area was referred to as Eagle Trail; thus both names are used in connection with the road. The Old Glenn Highway (Tok Cutoff) is used by Tok Area Forestry for timber sales and future timber sales and a planned fire lookout station. Eagle Trail, just south of the timber sale was used by Lieutenant Billy Mitchell's group to run telegraph cable to Eagle in the early 1900's. The area is currently used for hunting, recreational ATV riding and settlement.

C. Wildlife Habitat

The treatments proposed for this stand are projected to enhance habitat conditions for grouse, moose, voles, hares, and ultimately lynx, marten and fox. The Wood Energy Sale and Hazardous Fuels Reduction Project will continue to improve wildlife habitat in the Tok area. The area on the southern edge of the sale's designated co-primary use is forestry wildlife habitat and this sale will enhance the habitat in the area.

Fire suppression and limited timber markets presently hinder maintenance of the early successional broad-leaved forest for wildlife habitat near settlements in interior Alaska (*T. Paragi and D. Haggstrom*). Dozer shearblading on glacial outwash (loam over gravel) produced 74,200 – 209,200 stems/ha of aspen during experimental treatments (*Short Term Responses of Aspen to Fire and Mechanical Treatments in Interior Alaska, Thomas F. Paragi and Dale A. Haggstrom 2007*)

D. Fisheries and Water Quality

Best management practices will be implemented to ensure water quality standards in all water courses. This sale does not impact any waterbodies and no new roads will be built that cross any water bodies.

E. Subsistence

The proposed sale of timber is anticipated to have no deleterious effects on subsistence activities of fishing, trapping, hunting and gathering berries and other non timber forest products which may occur on state land. Subsistence opportunities will generally be increased with stand conversion.

F. Recreation and Tourism

Eagle Trail, south of the sale area is used by local residents on four wheelers for hunting and recreational riding and by snow-machiners for recreational riding in the winter.

G. Scenic Resources

Energy Sale and Hazardous Fuels Reduction Project # 1 will be situated and designed to enhance scenic views. Due to relatively flat topography and heavy timber, scenic views in the area are limited to open areas such as rivers or manmade clearings. Tok is designed for road layout along section lines and this sale will follow that pattern.

H. Cultural Resources

Structures or other evidence of historic activity will be identified and protected consistent with guidelines for cultural site protection (see the Cultural Resources section of Chapter 2). There are no known culturally sensitive areas within the sale (*Office of History and Archaeology*), see attached map.

I. Sustained Yield and Allowable Cut

The Alaska Forest Resources and Practices Act (AS 41.17.060 (c)) and Article VIII Sec. 4 of the State Constitution require that the State forest land be managed on a sustained yield basis. Sustained yield is defined in the Alaska Forest Resources and Practices Act (AS 41.17.950(25)):

“Sustained Yield” means the achievement and maintenance in perpetuity of a high level annual or regular periodic output of the various renewable resources of forest land and water without significant impairment of the productivity of the land and water, but does not require that timber be harvested in a non-declining yield basis over a rotation period.

The Annual Allowable Cut (AAC) is the amount that can be harvested from forest land managed for forestry purposes in a year under sustained yield management. The AAC in the Tok Area is based on a ten-year average as determined by the Parsons and Associates, Inc. report titled “Tanana State Forestry Lands Periodic Sustained Yield Analysis”. This sale complies with sustained yield/allowable cut principles outlined in the Tok Area Five-Year Schedule of Timber Sales for FY 2009-2013. The AAC for the Tok Management Area is approximately 3,539 acres. The AAC will not be exceeded for this proposed sale.

AS 41.17.060(c)(4) states that “timber harvesting is limited to areas where data and information demonstrate that natural or artificial reforestation techniques will result in the production of a sustained yield of merchantable timber from that area.” The DOF is committed to reforestation and a sustained yield of timber, fish and wildlife. The existing forest, the quality of timber in the harvest unit within the proposed sale area, and results from past timber sales in the Susitna Valley indicate that the area is capable of regenerating and supporting a sustained yield of merchantable timber and fish and wildlife. Please see the Regeneration section, below, for information about how this harvest has been designed to ensure adequate regeneration.

J. Silvicultural Prescription

1. **Stand Silviculture.** The normally merchantable tree species in the Tok area and adjacent highlands of the Alaska Range are white spruce, birch, aspen, and balsam poplar. Data and research on regeneration and growth characteristic of this species are compiled within the Resource’s analysis of the Tanana Valley State Forest (TVSF) Management Plan. The harvest and reforestation systems available in the Interior Alaska are also reviewed and listed in Resource Analysis. The results of the public and agency discussions for harvest and reforestation are discussed in the TVSF Management Plan. Silvicultural harvest systems that facilitate even aged (natural) management are generally preferred. They mimic the ecological impact of wildfire

and other disturbances and result in the greatest increase in site productivity. With suppression of wildland fire near Alaska settlements, prescribed fire and mechanical treatments are being used to maintain deciduous vegetation for wildlife habitat (Haggstrom and Kellyhouse 1996, Collins and Schwartz 1998) and to create fuel breaks in the coniferous forest. Even aged management is normally accomplished through clear cut, patch cuts, and heavy partial cuts (such as seed trees or shelter wood systems) which open up the site to maximum solar gain. This results in the greatest production of both young hardwood that is important to wildlife and the spruce understory valuable years later as timber. Even-aged management techniques are utilized to provide young, vigorously growing stands in juxtaposition natural seedling and the edge effect.

Removing spruce and aspen vegetation by shearblading and felling on glacial outwash in the Delta Junction Bison Range produced aspen sprout amounts that were relatively uniform at 60,000-100,000 stems/ha (T. Paragi and D. Haggstrom 2007) and compared favorably with the effects of fire in the Nenana Ridge area. Data and research on regeneration and growth characteristics of this species are compiled within the Resource Analysis of the Tanana Valley State Forest (TVSF) Management Plan. The harvest and reforestation are systems available in the Interior Alaska are also reviewed and listed in Resource Analysis. The results of the public and agency discussions for harvest and reforestation are discussed in the TVSF Management Plan. Silvicultural harvest systems that facilitate even-aged (natural) management are generally preferred. They mimic the ecological impact of wildfire and other disturbances and result in the greatest increased in site productivity.

2. **Specific Management Objectives.** Attain a more natural diversity of forest age classes in the general area by breaking the nearly continuous stand of spruce which is a wildfire hazard. Protect and where possible, enhance important wildlife habitat. Maintain or enhance the current level of recreational use of the area. Allow snags (wildlife trees) to be left on site. Return the site to a productive, naturally even-aged, diverse mixed species stand at an equal or greater basal area than currently exist. White spruce occupies 95% and aspen 5% of the stand.
3. **Harvest Methods.** The sale will be harvested using the stand conversion method where most trees within the harvest unit are cut. Equipment such as feller bunchers and log skidders will be used to cut and haul the material to landings to be chipped. Harvested material will be removed to be utilized as wood energy or saw logs. Crushing may also be used with a dozer and roller chopper knocking all trees to the ground breaking them into small pieces.
4. **Regeneration.** Opening the site will cause a large vegetative release. Residual and adjacent aspen and spruce will provide a seed and suckering source. Under this harvesting system natural regeneration of spruce and hardwood should be increase due to increased light and soil warmth.

K. Transportation

Access routes will be maintained to the standards set out in the AFRPA. The Alaska Highway provides primary all season access to this sale. No roads will be constructed for this timber sale. The Eagle Trail road will be reconditioned with brushing, shaping and grading.

L. Erosion

The sale area is virtually flat with little probability of erosion. There is no surface water in or close to any of the sale area. Harvesting will be suspended during periods of thawing soil conditions to assure there is minimal soil disturbance. The location of skid trails will optimize skidding distances and provide for adequate landing areas.

M. Mining

There are no known mining resources in the sale area.

N. Materials

Little or no rock materials will be required for the construction of access roads.

O. Economics

In addition to generating royalties to the State's general fund, the proposed sale will create economic benefits to Tok and to other locations in Alaska. The business community will receive direct economic benefits from providing support services for the operators through sales of fuel, food, housing, medical and miscellaneous supplies. The sale is expected to benefit the local economy by providing jobs. It will have a positive impact on local employment by generating significant man-hours of work associated with the harvest and transportation of wood products from this sale. Additionally the public may benefit from access to additional personal use fuelwood.

V. MARKET CONDITIONS

Housing, commercial construction and shipping have increased significantly in the Tok area. From these factors demand has also increased for milled white spruce lumber and house logs. This sale is expected to contain trees well suited for wood energy and some saw logs. Demand for wood energy is increasing dramatically due to the installation of a chip fired boiler at the Tok School, the Pellet Mill at Dry Creek, and the increased use of wood heating among homeowners and businesses. Its proximity to Tok area will be popular to a range of potential purchasers. Alaska Power and Telephone is conducting a feasibility study on a 2 megawatt electrical power generating facility. This sale could potentially provide woody material for energy production to that facility.

VI. ALTERNATIVE ACTIONS

There are four possible alternatives to consider for this sale. A discussion of each of the four alternatives follows:

1. To continue the sale(s) as proposed.

This alternative meets the objectives of the Five-Year Schedule of Timber Sales and DNR'S constitutional mandate, as well as the Tok Community Wildfire Protection Plan. It also meets the silvicultural objective of improving forest vigor, provides for a value-added end product and creates additional jobs in Alaska due to the combination of road maintenance, logging, and trucking. This alternative also complies with the management objectives of the Tanana Basin Area Plan for Unit 4J4.

2. **To modify the sale(s) by making them smaller or larger.**

The proposed sale unit is a logical setting for typical commercial logging equipment in Interior Alaska. The size of the sale is designed to be large enough to be economically viable considering access development and mobilization costs and distance to processing facilities. Sales of this size are appropriately balanced to maintain other resource values as well as provide economic benefits to the Tanana Valley.

3. **Defer the sale of this timber to a later date.**

Deferring harvest to a later date would fail to meet many of the objectives of the sale program. One of the main objectives is to reduce the risk of a wildfire on State-owned property negatively impact private property.

4. **Do not offer this timber for sale.**

This alternative would result in not meeting any of the objectives outlined for this management action. Utilization of the forest resource would not be achieved. There would be no significant contribution to the State and local economies. This alternative would delay the management objectives planned for the area, deny making a source of raw materials available to the local wood products industry, and would delay the harvest of mature trees, prior to the onset of disease or insect infestation. Decay in infected mature spruce trees results in the loss of economic value. Delay of this sale would also seriously jeopardize the safety of residents and values at risk in the area, exposing them to the dangers associated with Urban Interface Wildfires.

VII. PRELIMINARY FINDING AND DECISION

The purpose of this decision is to determine if the Department of Natural Resources, Division of Forestry, will make available timber located in Sections 10, 13, 15, 22, 23, 24, 26 and 35 Township 18N R11E, Copper River Meridian. After due consideration of all pertinent information and alternatives, the DNR has reached the following **Preliminary Decision: To offer the sale as proposed in Alternative 1.** In addition, the DNR finds that this preliminary decision satisfies the objectives as stated in this document and it is in the best interest of the State to proceed with this action.

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Tok Area Forester

Date